UNITED STATES PATENT AND TRADEMARK OFFICE

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10/574,619	04/05/2006	Shohji Ohtsubo	2006_0469A	1858

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ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>05 April 2006</u>.

2a)☐ This action is **FINAL**.　　2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-7</u> is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-7</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>05 April 2006</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☒ All　　b)☐ Some * c)☐ None of:

　　　1.☒ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date <u>04/05/2006</u>.

4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

DETAILED ACTION

Specification

The abstract of the disclosure is objected to because it is too long. Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 7 is rejected under 35 U.S.C. 101 because it recites a computer program for causing an apparatus that has a CPU to control transfer of data, and the claim fails to assert the program recorded on an appropriate computer-readable medium so as to be structurally and functionally interrelated to the medium and permit the function of the

descriptive material to be realized. Since a computer program is merely a set of instructions capable of being executed by a computer without a computer-readable medium needed to realize the computer program's functionality, it is regarded as nonstatutory functional descriptive material. See MPEP 2106.01 for details.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In **claim 1,** lines 19 and 25; in **claim 6,** lines 10 and 16; and in **claim 7,** lines 6 and 12, the phrase "processing being for" is not definite and confusing. For the purpose of examining this application it is construed as "processing unit for". Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Taniai et al. (US 5,438,665), herein after referred to as Taniai et al. '665.

Referring to **claim 1,** Taniai et al. "665 teach, as claimed, a recording device control apparatus (i.e.-direct memory access controller, col. 2, line 49) that successively receives transfer requests and controls transfer of data relating to the transfer requests to and from a recording device (i.e.-disk unit, col. 3, line 50) each transfer request including (i) area information that shows an area that is a transfer destination or a transfer source in the recording device and (ii) type information for specifying a transfer data type (Note: transfer control information consists transfer address and transfer data type) the recording device control apparatus comprising:

-a reception unit (i.e.-request handling means, col. 2, line 59) operable to receive the transfer requests;

-a transfer request specification unit (i.e.-transfer control circuit, col. 4, line 20) operable to perform transfer criterion judgment processing and same-area judgment processing with respect to each of specification target requests which are received transfer requests whose related data has not been transferred (col. 3, lines 62-66), and when a targeted transfer request fulfills a condition of a negative judgment result in both of the processing, specify the related data of the targeted transfer request as a transfer target (i.e.-transfer control circuit generates sets next transfer request based on transfer control information, col. 4, lines 20-25),

-the transfer criterion judgment processing being (i.e.-transfer control circuit, col. 4, line 20) for judging whether or not the targeted transfer request is a transfer-withhold target, based on a predetermined transfer criterion that defines a transfer order for the targeted transfer request and one or more transfer requests having different type information to the targeted transfer request, and

-the same-area judgment processing being (i.e.-transfer control circuit, col. 4, line 20) for judging whether or not a transfer request that has area information identical to area information included in the targeted transfer request was received before the targeted transfer request was received (col. 4, lines 39-41); and

-a transfer unit (i.e.-transfer management circuit, col. 6, line 45) operable to transfer the data specified by the transfer request specification unit.

As to **claim 2,** Taniai et al. "665 teach the recording device control apparatus of claim 1, wherein the recording device control apparatus has, in the recording device, a management area (i.e.-temporary register used for storing transfer control information, col. 4, lines 10-11) for storing management information that is for managing data locations in the recording device,

-the transfer request specification unit (i.e.-transfer control circuit, col. 4, line 20) further performs request judgment processing which is for, when the targeted transfer request is a transfer request with respect to the management area, judging whether or not a transfer request having identical type information to the targeted transfer request was received before the targeted transfer request was received (i.e.-the transfer request occurs based on the control information stored in temporary register, col. 4, lines 14-19), and

-when the targeted transfer request fulfills the condition and, in addition, a judgment result of the request judgment processing is negative, the transfer request specification unit specifies transfer data relating to the transfer request as data to be transferred (col. 4, lines 34-39).

As to **claim 3,** Taniai et al. "665 teach the recording device control unit of claim 2, wherein the transfer request specification unit further performs specification exclusion processing (i.e.-renewing of the control information, col. 4, lines 45-48) when the targeted transfer request, having fulfilled the condition and the judgment result of the request judgment processing being negative, is with respect to management information, and, in addition, when a transfer request that has not been transferred and is with respect to the management area was received after the targeted transfer request was received, the specification exclusion processing being for excluding the targeted transfer request from being a specification target request without specifying the targeted transfer request as a transfer target (Note: renewing the transfer control information

excludes the transfer target request that has not been transferred in the earlier transfer control information)

As to **claim 4,** Taniai et al. "665 inherently teach the recording device control apparatus of claim 3, wherein the reception unit further receives an omission instruction that instructs that transfer of redundant management information is to be omitted, and the transfer request specification unit performs the specification exclusion processing only when the reception unit has received the omission instruction, since the transfer control circuit renews the first control information.

As to **claim 5,** Taniai et al. "665 teach the recording device control unit of claim 1, wherein the predetermined criterion is predetermined priority levels that show a transfer order for transfer control information data according to the type information (Note: the temporary register holds the transfer for executing the next data transfer, col. 5, lines 40-41), and the transfer criterion judgment processing (i.e.-transfer management circuit, col. 5, line 45) is for judging that the targeted transfer request is a transfer-withhold target when a priority level of a transfer request that includes different type information to the type information of the processing-target transfer request is higher than the priority level of the processing-target transfer request (Note: since the necessary next transfer control information for processing the next transfer request is generated in advance, the priority level of each transfer request is in order, col. 4, lines 30-33).

Referring to **claim 6,** Taniai et al. "665 teach, as claimed, a recording device control method for successively receiving transfer requests and controlling transfer of data (i.e.-direct memory access controller, col. 2, line 49) relating to the transfer requests to and from a recording device (i.e.-disk unit, col. 3, line 50), each transfer request including (i) area information that shows an area that is a transfer destination or a transfer source in the recording device and (ii) type information for specifying a transfer data type (Note: transfer control information consists transfer address and transfer data type), the recording device control method comprising:

-a reception step of receiving the transfer requests (i.e.-request handling means, col. 2, line 59);

-a transfer request specification step (i.e.-transfer control circuit, col. 4, line 20) of performing transfer criterion judgment processing and same-area judgment processing with respect to each of specification target requests which are received transfer requests whose related data has not been transferred (col. 3, lines 62-66), and when a targeted transfer request fulfills a condition of a negative judgment result in both of the processing, specifying the related data of the targeted transfer request as a transfer target (i.e.-transfer control circuit generates sets next transfer request based on transfer control information, col. 4, lines 20-25);

-the transfer criterion judgment processing being (i.e.-transfer control circuit, col. 4, line 20) for judging whether or not the targeted transfer request is a transfer-withhold target, based on a predetermined transfer criterion that defines a transfer order for the targeted transfer request and one or more transfer requests having different type information to the targeted transfer request;

-the same-area judgment processing being (i.e.-transfer control circuit, col. 4, line 20) for judging whether or not a transfer request that has area information identical to area information included in the targeted transfer request was received before the targeted transfer request was received (col. 4, lines 39-41); and

-a transfer step (i.e.-transfer management circuit, col. 6, line 45) of transferring the data specified by the transfer request specification unit.

Referring to **claim 7,** it is directed to a computer program for causing an apparatus that has a CPU to implement the method as set forth in claim 6. Therefore, it is rejected on the same basis as set forth in claim 6 above.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Tanaka et al. (US 5,794,020) disclose data transfer apparatus for fetching data at maximum margin of timing;

- Yashima et al. (US 6,275,878) disclose data recorder and data reproducing circuit; and

- Klein (US 6,304,923) discloses method for prioritizing a data transfer request by comparing a latency value with predetermined range of values.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elias Mamo whose telephone number is (571) 270-1726 and fax number (571) 270-2726. The examiner can normally be reached on Monday to Thursday from 9 AM to 5 PM EST. The examiner can also be reached on alternate Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Henry Tsai, can be reached on (571) 272-4176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EM

HENRY TSAI
SUPERVISORY PATENT EXAMINER   9/15/07